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Developments in UNFCCC/IPCC regarding Forests and their Potential Implications for Tropical Forests and World Tropical Timber Economy
[Decisions 2(XXXIX) and 1(XLI)]

(Item 15 of the Provisional Agenda)

Prepared for

International Tropical Timber Organization

by

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1 Introduction

This document is a follow up on ITTC Decisions 2(XXXIX) and 1(XLI) requesting updated information on major developments in tropical forests related issues in the decisions and related discussions under the United Nations Framework Convention on Climate Change (UNFCCC) and in the Intergovernmental Panel on Climate Change (IPCC).

The present report covers progress made since the Forty-ninth Session of the ITTC in November 2013. Specifically, it updates ITTC on recent developments in IPCC, particularly on the 5th Assessment Report (AR5) 2013/14 which is made up of full reports prepared by 3 Working Groups. The present report also updates the ITTC on REDD+ finance & markets and REDD+ policy process in UNFCCC (SBSTA 39, COP 19 and SBSTA 40) including decisions of the 'Warsaw framework for REDD+'.

The report also includes a section presenting REDD+ related activities undertaken by the Secretariat since November 2013.

2 Prior REDD+ Decisions

REDD+ has been one of the important elements of the international negotiations and discussions of UNFCCC since the Bali Action Plan of 2007, which provides a basis for subsequent negotiations on REDD+. The Copenhagen Accord (2009) recognizes the crucial role of REDD+ and the need to enhance sequestration of atmospheric carbon di-oxide by forests and agrees to provide positive incentives through the immediate establishment of mechanisms including REDD+. COP 16 of UNFCCC in Cancun in December 2010 provided guidance on safeguards for REDD+ and approved a SBSTA work programme on policy approaches and positive incentives on issues relating to REDD+1. COP 18 of UNFCCC in Doha in December 2012 decided on a work programme on results- based finance for REDD+ in 2013 with the purpose to scale up and improve the effectiveness of REDD+ finance. COP19 finally agreed on the so-called Warsaw framework for REDD+, as described beneath.

3 A Summary on relevant issues for ITTO in the 5th IPCC Assessment Report

The text beneath is a summary of the main conclusions of the reports of the working groups of AR5 (IPCC 2013 and 2014a). It has been completed by an analysis of the consequences of the predicted change on humid tropical forests and their management.

The average global surface temperature has increased by 0.8 °C in the period between 1880 and 2012. Each of the last three decades has been successively warmer than any preceding decade since 1880 and the period 1983 – 2012 probably was the warmest 30-year period of the last 1,400 years. The observed warming is not homogenous. It has been about 1.5 times stronger over land surfaces than over the sea and about 2 times stronger in the arctic regions than in the global average.

Most probably, the number of cold days has decreased and the number of hot days and nights has increased since 1951. Changes in global precipitation patterns are more difficult to determine based on the available data. However, with middle confidence, an increase of dry periods and the number and intensity of heavy rainfalls has been observed over the same period.

The observed climate change can be explained by changes in the radiative forcing observed in different elements of the climate system, such as changes in the concentration of greenhouse gases (GHG) in the

1 COP 16 decision (1/CP.16) adopted under the Cancun Agreement in 2011 defines the scope of five REDD+ activities, namely (1) reducing emissions from deforestation, (2) reducing emissions from forest degradation, (3) conservation of forest carbon stocks, (4) sustainable management of forest, and (5) enhancement of forest carbon stocks. The decision also calls for developing country Parties to undertake the following activities:
(a) Design a national strategy or action plan on REDD+;
(b) Establish a national forest reference emission level and/or forest reference level or, if appropriate, as an interim measure, sub-national forest reference emission levels and/or forest reference levels;
(c) Design a robust and transparent national forest monitoring system for the monitoring and reporting of activities; and
(d) Design a system for providing information on how the agreed social and environmental safeguards are being addressed and respected

atmosphere, aerosols, clouds, albedo and solar radiance, which in total has increased by 2.29 Wm^{-2} since 1750. The radiative forcing of 3 Wm^{-2} due to increased GHG concentrations is partly compensated by the negative effects of increased aerosol concentration (-0.9 Wm^{-2}) and the changes in albedo due to deforestation (-0.15 Wm^{-2}). The increase of solar radiance in the same period plays a minor role with 0.05 Wm^{-2}.

The 40% increase of CO_2 in the atmosphere from 278 ppm in 1750 to 390 ppm in 2012, is with a radiative forcing of 1.7 Wm^{-2} the main driver of the observed climate change. About one third of the anthropogenic CO2 emissions that caused this increase in atmospheric CO2 came from land-use change. Today, about 10% of the annual CO2 emissions are net-emissions from land-use change, mainly from tropical deforestation (i.e. including forest expansion, secondary regrowth, etc.). While CO2 emissions from deforestation have been reduced over the past decade, emissions from combustion of fossil fuels are further increasing at unprecedented rates.

More than half of the historic CO2 emissions did not remain in the atmosphere, but were reabsorbed by the oceans (28%) and by terrestrial ecosystems (mainly forests) not affected by land-use change (29%). The existence of those carbon sinks is a direct effect of the elevated concentrations of CO2 in the atmosphere. It is assumed that together with the enhanced CO2 concentrations, longer growing seasons (particularly mid-to-high latitudes) and increased deposition of nitrogen has caused an increased net productivity of terrestrial ecosystems. This sink has been increasing over the last decades from 1.5 GtC per year in the 1980s to 2.6 GtC per year in the 2000s, which is more than compensating net-emissions of about 1 GtC per year resulting from land-use change.

Research in the last years has shown that the terrestrial carbon sink is mainly provided by established forests (e.g. article by Luyssaert et al, 2008 in Nature, stating that primary boreal and temperate forests in the northern hemisphere alone sequester 1.3 GtC per year). While boreal and temperate forests are net carbon sinks (0.9 GtC and 0.5 GtC per year), tropical forests were found to be near neutral with net emissions from land use change being compensated by sinks in established tropical forests.

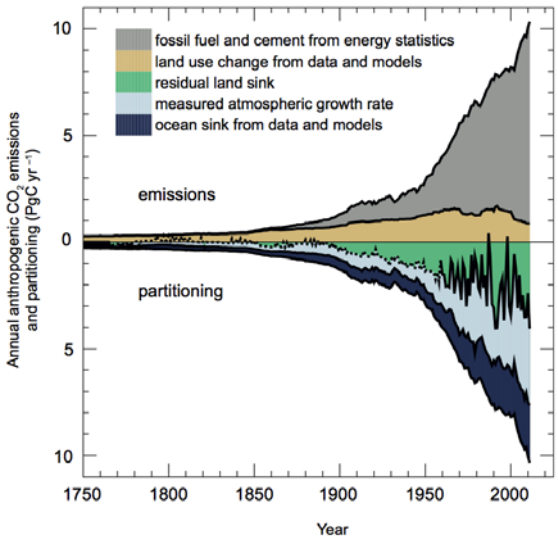

Figure 1: Annual anthropogenic CO2 emissions and their partitioning among the atmosphere, land and ocean (PgC yr–1) from 1750 to 2011 (IPCC, 2013).

The future projection of climate change by the IPCC is based on projections of a multitude of climate models using different assumptions on the future radiative forcing of the different components of the climate system. In total, four types of scenarios (representative concentration pathways RCPs) are distinguished, with the most optimistic assumptions peaking at a radiative forcing at 3 Wm^{-2} in the coming years and a subsequent reduction to about 2.6 Wm^{-2} by 2100 (RCP2.6), two scenarios stabilizing at 4.5 Wm^{-2} and 6.0 Wm^{-2} by 2100 (RCP4.5 and RCP6.0) and one with very high greenhouse gas emissions being at 8.5 Wm^{-2} by 2100 and still far from stabilization (RCP8.5). The ranges of associated increases of global average surface temperature 2100 are between 0.3 °C – 4.8 °C, relative to the period 1986 – 2005. It is likely, for all scenarios but RCP2.6

2 Monthly average of CO2 concentration for July 2014 of Mauna Loa Observatory: 399 ppm

that by 2100 temperature will increase by more than 1.5 °C above pre-industrial levels (1850 – 1900). Temperature increase by more than 2 °C until 2100 is likely for scenarios RCP6.0 and RCP8.5 and unlikely for RCP2.6. Warming by more than 4 °C is unlikely for all scenarios but RCP8.5.

It's almost certain that global warming will cause an increase in global precipitation by 1 – 3% per °C. The distribution of this increase will not be uniform and there will be increases in some regions and decreases in others. In general, the contrast between dry and wet regions and also the contrast between dry and wet seasons will further increase. The intensity and frequency of heavy rainfalls in the tropics will increase.

Impacts of climate change on forests

The interactions of forests with the climate system are manifold. The temperature, solar radiation, the precipitation and the CO2 concentration in the atmosphere are principal factors of forest productivity. On the other side, forests influence the climate by the CO2 they absorb from the atmosphere, the absorbance or reflection of solar radiance (albedo) and the cooling effect due to transpiration and the production of aerosols required for the formation of clouds.

Impacts of global change can be positive as well as negative. Increased CO2 concentrations in the atmosphere, together with a longer growing season and increased deposition of nitrogen stimulates plant growth and is responsible for the 5% increase of net primary productivity observed between 2000 and 2009 relative to pre-industrial levels. On the other side, climate change will cause disturbances of forest ecosystems that might exceed those positive effects already in the 21st century. An increase of such disturbances of forest ecosystems (such as droughts, storms, forest and wild fires and pests) has already been observed in different regions of the world. Climate induced disturbances will probably become the main stress factor for terrestrial ecosystems in the second half of the 21st century. Until then, human induced stressors such as land-use change will remain the dominant factors.

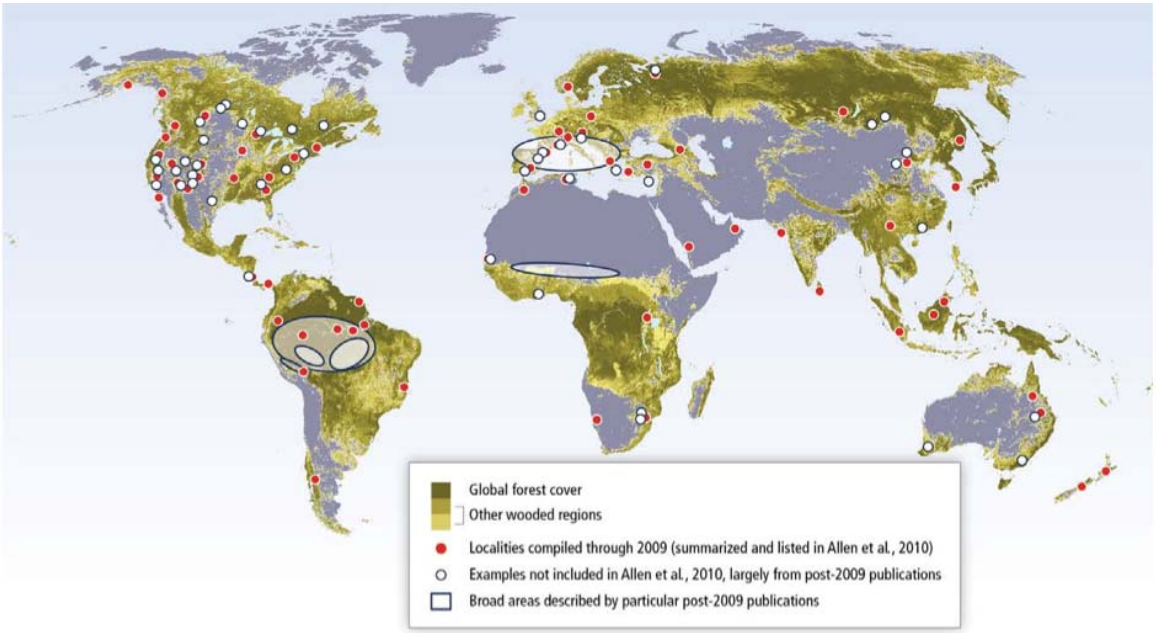

Figure 2: Locations of substantial drought and heat-induced tree mortality around the globe since 1970 (IPCC, 2014a)

According to the theory of ecological systems and experiments, an ecosystem can absorb disturbances up to a certain degree and collapses when this limit is exceeded. Climate change will thus not have a linear effect on forest ecosystems but will cause abrupt changes in their structure, composition and functioning when a certain limit of disturbance is exceeded. This non-linearity makes prediction of the impact of climate change on forest ecosystems difficult or even impossible. A recent global study has shown that already 70% of the observed tree species operate close to their limits of water stress tolerance, indicating that vulnerability to drought and temperature stress will not be limited to arid and semi-arid forests but will also affect humid tropical forests which are the resource base of tropical timber.

Besides the climate related incidences such as droughts, storms, fires and pests, climate change will gradually shift climatic regions and so the climatic envelope of species. Whether or not the migration of species can keep track with the shift depends on the one side on the pace of climate change and on the other side on the capacity of a species to disperse itself over larger areas and also the availability of migration pathways. Late-successional trees (that are often also main commercial timber species in tropical humid forests) belong to the slowest moving species with some tenths to hundredths meter per year. Some of them might, without human intervention, not be able to follow even moderate climate shifts.

To what extent current forest ecosystems, and in particular tropical forests, will be able to resist to climate change also depends on its adaptive capacity. Ecosystems that have persisted for a long time probably have a high capacity for autonomous adaptation, at least up to the level of environmental variability they experienced in the past. Research has shown that the genetic variability of late-successional trees would in general allow them to adapt to climate change and mitigate adverse impacts. However, the same studies also indicate that adaptive responses will lag far behind even modest rates of projected climate change, due to the very long generation time of trees.

Climate change mitigation potentials in forestry

The land-use sectors are the only sectors in which emissions are decreasing and are projected to further decrease, mainly based on the observed reduction of deforestation in the last decades (see figure above). Emissions from deforestation have decreased from about 5.5 GtCO2e/year in the period 1960 – 2000 to about 4 GtCO2e/yr in the period 2000 - 2012. Besides further reducing emissions from deforestation, a key issue for climate mitigation in forestry is the enhancement of sinks and maintaining their permanence.

Due to the ability of removing CO2 from the atmosphere, forest mitigation options play a key role in all scenarios leading to a stabilization of GHG concentrations by 2100. On the other side, carbon stored in the terrestrial biosphere is susceptible to loss to the atmosphere as a result of climate change and with medium confidence, increased mortality and dieback will occur in many places in the next one to three decades. Examples of climate-induced abrupt changes of terrestrial ecosystems, which could lead to substantial impact on climate within the 21st century, are the boreal-tundra Arctic system (medium confidence) and the Amazon forest (low confidence).

The potential of climate change mitigation in forestry is estimated 0.01 – 1.45 GtCO2e/yr at prices of up to 20 USD/tCO2e, 0.11 – 9.5 GtCO2e/yr at prices of up to 50 USD/tCO2e and 0.2 – 13.8 at prices of up to 100 USD/tCO2e. Looking at the overall mitigation potential in land-use sectors, demand-side measures, such as changes in diet and reductions of losses in the food supply chain have about the same potential as supply-side measures (medium evidence, medium agreement). Proposed instruments to realize the mitigation potentials in forestry are regulatory approaches such as national REDD+ policies, forest law to reduce deforestation, land-use planning and governance; credit lines for low carbon agriculture and sustainable forestry; certification schemes, protection of forest and diffusion of information and innovative technologies.

Consequences for forest management

Projections of climate change and its impacts on forest ecosystems are insecure and far from perfect. However, immediate and pro-active measures should be taken in the forest sector knowing that both, capacity for migration and autonomous adaptation of forest key species such as late-successional trees are highly limited. How to deal with this situation? A key element of an adaptation strategy has to be the recognition of the uncertainties. It will lead to measures that promote the resistance and the preadaptation of forests to a variety of future conditions (e.g. FAO, 2013).

The literature distinguishes two options for improving the resilience of forest ecosystems towards negative impacts of climate change through forest management. One is to specifically reduce the negative impacts of climate change by phytosanitary measures, protection of habitats and reduction of non-climatic stressors, in order to maintain the elastic capacity of a forest ecosystem3. The other option is to include additional

3 Elastic capacity of a forest ecosystem refers to the dynamic forest processes within a range of changing vertical forest structure, species composition and biodiversity, and productivity normally associated with the natural forest type expected at that site.

measures in the management scheme that increase the adaptive capacity of the forest ecosystem, in order that it can maintain its principal structure and functioning under different future conditions. It includes activities such as maintaining and strengthening of species diversity, ensuring habitat connectivity, or even the assisted migration or the physical dislocation of species. Particularly the targeted restoration and promotion of structures resilient to disturbance events will increase the adaptive capacity of the system.

The still high portion of unmanaged tropical forests, the high diversity of tropical tree species, the limited knowledge about stand ecology and the lack of experience with mixed tropical timber plantations with valuable species remains a considerable challenge for assisted adaptation in tropical regions. The inclusion of measures in forest management planning to increase resilience of forest stands and tree species is a major challenge for tropical timber production countries in the near future.

With regard to the management of forests carbon stocks, similar uncertainties prevail. If the CO2 sequestration through tropical climax forests continues to increase, the best strategy would be to preserve those important carbon sinks (assure the permanence of standing carbon stocks). If under different circumstances the forests carbon stocks become saturated or even start to decay, the best strategy would be to harvest the timber and use it to replace fossil fuels (substitution). Non-regret management options are those that try to increase both, wood production and harvest as well as forest carbon stocks. This type of management can be best assured in tropical humid forests through a carefully applied polycyclic management system. Concretely, if not in conflict with other management objectives, these include the replacement of stands in decay or with low productivity either through natural regeneration or enrichment plantings; the reduction of damages during logging (reduced impact logging); the promotion of reforestation and afforestation through a species mix that enhances the resilience; and the enhancement of tree growth by optimized fertilization and use of nitrogen fixing species in fast growing fiber plantations.

4 SBSTA conclusions, Warsaw framework for REDD+ and REDD+ funding updates

4.1 SBSTA 39 and 40 conclusions

SBSTA 39 took place from 11 – 16 November 2013 in Warsaw, Poland.

Draft decisions on (i) guidelines and procedures for the technical assessment of submissions from Parties on proposed forest reference emission levels and/or forest reference levels and (ii) methodological guidance for measuring, reporting and verifying were recommended for consideration and adoption by COP19. Moreover, it stated the intention to continue considerations on the development of methodological guidance on non-market-based approaches and methodological issues related to non-carbon benefits at SBSTA 40.

SBSTA 40 took place from 4 - 15 June 2014 in Bonn.

At the meeting, parties recalled the importance of non-carbon benefits for long-term sustainability as well as the need to create corresponding incentives. An agreement was made to continue considerations of methodological issues on non-carbon benefits at SBSTA 42.

Considerations of the development of methodological guidance on non-market-based approaches for REDD+ were agreed to be continued at SBSTA 41.

An in-session expert meeting was held on June 6 at SBSTA 40 on the matters referred to as non-market-based approaches, such as joint mitigation and adaptation approaches for the integral and sustainable management of forests. Presentations and a summary are found on http://unfccc.int/meetings/bonn_jun_2014/workshop/8278.php

4.2 Warsaw framework for REDD+

In November 2013 the COP19 adopted the 'Warsaw framework for REDD+' which consists of 7 decisions. These decisions together with decisions taken at previous COPs constitute a complete 'REDD+ rulebook'. The report on the Warsaw framework for REDD+ was given in a powerpoint presentation at the 49th session of the ITTC in Gabon in December 2013.

UNFCCC COP19 decisions, 'Warsaw framework for REDD+'

- **Decision 9/CP.19 - Work programme on results-based finance to progress the full implementation of the activities referred to in decision 1/CP.16, paragraph 70 (EN)**
- **Decision 10/CP.19 Coordination of support for the implementation of activities in relation to mitigation actions in the forest sector by developing countries, including institutional arrangements (EN)**
- **Decision 11/CP.19 Modalities for national forest monitoring systems (EN)**
- **Decision 12/CP.19 The timing and the frequency of presentations of the summary of information on how all the safeguards referred to in decision 1/CP.16, appendix I, are being addressed and respected (EN)**
- **Decision 13/CP.19 Guidelines and procedures for the technical assessment of submissions from Parties on proposed forest reference emission levels and/or forest reference levels (EN)**
- **Decision 14/CP.19 Modalities for measuring, reporting and verifying (EN)**
- **Decision 15/CP.19 Addressing the drivers of deforestation and forest degradation (EN)**

Concerning financing, the Warsaw framework specifies that funds for results-based payments for REDD+ can come from different sources including public, private, bilateral, multilateral and alternative sources. Countries anticipating receiving REDD+ payments should implement robust forest monitoring systems that generate transparent, time-consistent data. Moreover, monitoring systems should build on existing systems, allow for an assessment of different types of forest in the country, be flexible allowing for improvement and should reflect the phased approach to REDD+.

Information on Cancun safeguards is to be reported in periodical summaries. The provision of information on how safeguards were addressed and respected is a prerequisite for obtaining results-based payments. The reporting of information should begin after the start of REDD+ activities. On a voluntary basis, the information could be published on a new UNFCCC web platform. This platform, or REDD+ hub, will seek to enhance transparency by documenting information on countries' REDD+ activities and the resulting results-based payments.

Developing countries will need to submit their proposed forest reference emission levels and/or forest reference levels. With the Warsaw framework the COP has adopted guidelines and procedures for the technical assessment of the parties' submissions. Annual assessment sessions will be held in Bonn to evaluate the submissions. Submissions will be dealt with by assessment teams consisting of two land use experts, one from a developing and one from a developed country.

Concerning measuring, reporting and verifying (MRV), estimations of the anthropogenic forest-related emissions should be reported bi-annually. The estimations should be expressed in tons CO2/year, should be transparent and consistent over time. Moreover, consistency with guidance for NAMAs and any future COP decisions is to be established.

Non-carbon benefits are addressed in the framework and their importance is acknowledged but a clear definition of the term is still pending.

4.3 REDD+ Funding

The following pledges on REDD+ financing have recently been made

- US$1 billion from Germany to the Green Climate Fund (July 2014)
- US$100 million from Norway to FCPF Readiness fund (Dec. 2013)
- US$70 million from United Kingdom to the Carbon Fund
- US$280 million from Norway, the United Kingdom, the United States to BioCarbon Fund during COP19 (Nov. 2013)
- US$40 million from Norway to UN-REDD (Nov. 2013)

Additional information on financing / markets available on:

- Voluntary REDD+ Database: http://reddplusdatabase.org /
- http://foris.fao.org/meetings/download/_2014/redd_partnership_meeting/presentations/redd_partnership_meeting_vrd_update.pdf
- State of Forest Carbon Market 2013: http://www.forest-trends.org/documents/files/FCM2013print.pdf

5 ITTO Experiences in promoting REDD+ related activities

5.1 ITTO has continued to implement various activities to enhance the capacity of stakeholders in the design and implementation of REDD+ actions in the context of promoting sustainable forest management in the tropics. These activities include the implementation of the REDDES Thematic Programme, REDD+ related capacity building projects under the general project cycle and the organization of an international conference on payments for environmental services of tropical forests, and ITTO side events in conjunction with the COP-20 of UNFCCC.

5.2 Thematic Programme on REDDES. Under the Thematic Programme on Reducing Deforestation and Forest Degradation and Enhancing Environmental Services (REDDES), many activities are underway including: assessment of drivers for deforestation and forest degradation; review of policy, legal and institutional frameworks for creating enabling conditions; training in forest resources monitoring and reporting; and scaling up of best knowledge and practices from demonstration activities. In the assessment of deforestation and forest degradation and environmental services provided by tropical forests, on-going projects include:

- Reducing Emissions from Deforestation and Forest Degradation through Collaborative Management with Local Communities in Ghana [RED-PD 026/09 Rev.1 (F)]
- Improving efficacy of forestry policies and activities in Liberia through REDD+ demonstration projects [RED-SPD 084/12 Rev.1 (F)]
- Reducing forest degradation and emissions through sustainable forest management (SFM) in Peninsular Malaysia [RED-PD 037/11 Rev.2 (F)]
- Capacity building for developing REDD+ activities in the context of sustainable forest management in Myanmar [RED-PD 038/11 Rev.3 (F)]
- Promoting local community initiatives on the rehabilitation of mangrove ecosystems in Bintan Island, Indonesia to reduce further deforestation and forest degradation [RED-PD 064/11 Rev.2 (F)]
- Monitoring deforestation, logging and land use change in the Pan Amazonian Forest – PANAMAZON II [RED-PD 029/09 Rev.1 (F)]
- Sustainable forest management and utilization of ecosystem services in forests managed by the Ese'Eja native community in Infierno, Peru [RED-PD 018/09 Rev.1 (F)]
- Strengthening of governance and sustainable management of mangrove ecosystems in Guatemala as a climate change adaptation measure [RED-SPD 079/12 Rev.1 (F)]

More information on the implementation of all projects under the Thematic Programme on REDDES is available from Document ITTC(L)/11 under Item 14 (Progress report on the implementation of the ITTO Thematic Programmes) of the provisional agenda of the ITTC-50.

5.3 A public-private partnership to promote REDD+ and biodiversity conservation in Meru Betiri National Park, Java, Indonesia: The Meru Betiri National Park (MBNP) area consists of about 58,000ha of tropical forests in Java, Indonesia with high floristic diversity and various small to relatively large animals. Java tigers used to live in MBNP until the 1970s but the last tigers were sighted in 1976. The MBNP is under increasing threat of deforestation and forest degradation due to illegal logging and encroachments. With the financial support of Seven & i Holdings Co., Ltd. (Japan), a public-private partnership to promote REDD-plus and biodiversity conservation in MBNP was launched in 2009 to contribute to global efforts conservation of biodiversity and reducing emissions from deforestation and degradation (REDD) in Indonesia. Specifically, the partnership aims to: (i) improve the livelihoods of local communities living inside and in the surrounding area of the MBNP through participation in avoiding deforestation, degradation and biodiversity loss; and (ii) develop a credible measurable, reportable and verifiable system for monitoring emission reductions from deforestation and forest degradation and enhancement of forest carbon stocks in the MBNP.

A reference level in MBNP was set based on the estimation of carbon stocks from ground measurement through establishment of 40 permanent sample plots and remote sensing data analyses of land cover changes and using IPCC Guideline (2006). The outcomes of the carbon assessment studies include; carbon stock in MBNP varied from an average of 28.7 to 166.63 ton C/ha with the highest carbon stock in

secondary forest; Annual emission from MBNP area was 15,066 ton CO2e/year; stopping deforestation will reduce emission by 295.036 ton CO2e during the period of 2010-2030; and enhancement of carbon stocks will increase C stocks by: 1,020,966, 1,189,367 and 1,610,441 tonCO2e based on three cases of planting 160, 200 and 300 trees/ha respectively during the projecting period.

5.4 International Forum on Payments for Environmental Services (PES) of Tropical Forests: The International Forum was co-organized by ITTO, FAO and Costa Rica's National Fund for Forest Finance (FONAFFO) and hosted by the Government of Costa Rica in San Jose, Costa Rica on 7-10 April 2014. The Forum explored how payments for the environmental services provided by tropical forests can support forest owners and managers to improve incomes and support SFM. The Forum's recommendation include strengthening PES schemes in tropical forest by raising awareness of the importance and value of tropical forest environmental services; developing policies to increase market demand for the environmental services provided by tropical forests; ensuring that PES schemes protect the rights of indigenous peoples, local communities and vulnerable groups; and strengthening governance and institutions to enable the effective implementation of PES schemes.

Presentations, background information and the Forum summary can be found at: www.fao.org/forestry/84884. Based on the insights gained at the International Forum on PES, a policy brief entitled "Rewarding the service providers" has been prepared and widely distributed. It can be found at http://www.itto.int/policypapers_guidelines/. In addition, ITTO Newsletter, TFU features discussions of the International Forum on PES as a special edition (Volume 23 Number 1 2014). The outcomes of the International Forum on PES were presented at FAO/ITTO joint side event during FAO's Twenty-second Session of Committee on Forestry (23-27 June 2014, Rome, Italy). Moreover, it is expected that to promote PES collaboration with other partners, the outcomes of the PES International Forum will be presented at ITTC-50 and a joint side event between FAO and ITTO at IUCN World Parks Congress 2014 (12-19 November, Sydney, Australia).

5.5 In the 2014 Global Landscapes Forum which will take place on 6-7 December 2014 in conjunction with the COP20 of UNFCCC in Lima, Peru, ITTO is working for the joint organization a Discussion Forum on "*Forest Landscape and Ecosystem Restoration in the Tropics: Scaling up Integration and Inclusion of Diverse Stakeholders*" with CBDS, FAO, IUCN, and the Korea Forest Service. In addition, ITTO is seeking additional collaboration with partners to promote SFM and PES in the tropics during the COP20. The organization of an ITTO side event on SFM practices at Peruvian Forests Pavilion is underway.

6 Conclusion

6.1 For most observers of COP20 in Warsaw, the negotiated REDD+ decisions ("Warsaw Framework for *REDD* Plus") was the most important concrete outcome of the Conference. It is thus believed that the progress on REDD+ sets countries up for a successful implementation to preserving and sustainably manage their forests and the climate-altering carbon stored in these forests. Concretely, effective progress was made on six substantive issues (in 7 Decisions, as outlined above), as follows:

i. *Finance*. Funds to implement REDD+ at a global scale are currently lacking. If these funds are not made available in sufficient quantities, then developing countries will not be able to implement REDD+ activities. The Warsaw framework does not define new rules to solve this issue, but stresses that finance should be "results-based" and that developing countries need finance from funding agencies like the new Green Climate Fund or other sources.

ii. *Transparency and safeguards*. The Warsaw Framework agreed on the "establishment of an information hub" on the UNFCCC website. This hub would feature information on REDD+ activities, including results-based payments, technical reports that describe how greenhouse gas emissions savings are calculated, national forest strategy and action plans, information on how safeguards are addressed, etc. This hub is a big step in that it will increase the understanding of each country's successes and make this information widely known.

iii. *Monitoring*. The approaches for MRV (monitoring, reporting and verification) were agreed upon in prior COPs. The Warsaw Framework makes **these systems mandatory for all developing nations participating in REDD+.** It stipulates what must be monitored and how. It states that MRV and national forest monitoring systems are based on remote-sensing and ground-based observations, and should be transparent as well as consistent over time. The systems must measure forest carbon stocks, forest-related emissions, forest area, and different types of forests. This step has been important and is also very supportive to the overall aim of SFM.

iv. *Verification.* This international verification has been passionately debated in previous meetings and has reached a consensus in Warsaw on an approach to ensuring that REDD+ is effective enough to enable performance-based payments. MRV systems and forest reference level will be verified at the international level; for each country that is interested in REDD+, the UNFCCC will assemble a technical team that includes experts from **one developed country and one developing country.** This team will assess the MRV results and forest reference levels. The publicly available assessment will look at methods, definitions, accuracy, transparency, documentation, assumptions, gases included, and comprehensiveness of the country's claims to avoided deforestation. The framework further established a timeline for completing this technical assessment annually, with all final reports published on the information hub. This also helps countries to define their specific REDD+ strategy.

v. *Institutional arrangements.* In many countries, it has been unclear which ministry or agency is responsible for implementing REDD+ and receiving associated funds. The new framework encourages countries to set up a national REDD+ entity or designate a focal point for REDD+-related matters. These entities are eligible to **receive results-based finance** to implement REDD+ activities and strategies. While this is a major achievement in respect to REDD+, it also implies potential conflicts in countries when such REDD+ entities are not closely related to those agencies that are in charge of SFM, forest conservation or land-use planning.

vi. *Addressing the drivers of deforestation*. The Warsaw REDD+ agreement encourages all parties, developed and developing countries, civil society and private sector to take action in reducing drivers of deforestation. This includes continuing the implementation and support of ongoing initiatives. However, the drivers of deforestation were not defined, so it is unclear how this decision will be implemented; these actions will need to be addressed at country level.

In conclusion, the REDD+ decision made at Warsaw represent considerable progress despite the fact that the financing of REDD+ is not yet sufficiently addressed. However, countries can no longer claim that there is a lack of framework for REDD+ over the coming years. If the Green Climate Fund can be mobilized to support REDD+ implementation, a major step towards effective progress can be made. With a well-designed and well-supported REDD+ system, there is a realistic chance to effectively progress with the overall aim of sustainable forest management. In this respect, ITTO and ITTO member countries can play an important role in bringing REDD+ and SFM closer together.

6.2 Taking a careful look at the forthcoming COP20 in Lima Peru in December 2014, there will be a number of agenda items that will keep the momentum on the further development of forests and REDD+ in the UNFCCC:

- At the level of Negotiations:
  - SBSTA negotiations in REDD+ Safeguard Information Systems, non-carbon benefits, joint adaptation and mitigation
  - New Market Mechanisms: REDD+ is being negotiated, although there is some strong opposition on the inclusion of REDD+ as new market mechanism
  - LULUCF: finishing second commitment period, setting of rules and review guidelines
  - NAMAs and in particular Forest NAMA: further negotiations on their design
  - Land sector in the ADP (Ad-hoc Working Group on the Durban Platform) and the post-2020 treatment of the sector. This part might be discussed more informally and with possible high-level support on the inclusion of the land sector in the future climate change accord
- Other issues: REDD+ Partnership:
  - The REDD+ partnership meeting will most probably meet for a last time during COP20 in Lima and use this last meeting to reflect on its achievements and review the effectiveness of its work.
  - Deliberation on the transition of the Partnership to meetings of national REDD+ focal points
  - Transition of the Voluntary REDD+ Database, possibly to FAO.

6.3 Moving forward, with the aim of increasing resilience of tropical forests to the negative effects of climate change and scaling up tropical forests' contribution to global GHG emission reductions through REDD+, it is essential to enhance the ITTO Thematic Programme on REDDES and REDD+/SFM partnerships.

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